Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

What is claimed is:

1.   (Currently Amended) ~~An apparatus~~ A system for implementing a preferred set of prices for a subset of a plurality of products, comprising computer readable media, the system comprising:

a database ~~configured to store~~ storing initial prices for a plurality of products;

a modeling engine ~~configured to create~~ creating a demand model for the plurality of products based on Bayesian modeling;

a subset generator ~~configured to designate~~ designating a subset of products of the plurality of products, wherein the number of products in the subset of products is less than the number of products in the plurality of products, the subset being designated by solving an integer problem, and wherein the subset generator is also configured to enable a number N to be designated and the subset generator is also configured to select no more than N products of the plurality of products to form the subset of products, and wherein the selected no more than N products has the largest impact on a business objective ~~optimization of prices~~ of any subset of no more than N products of the plurality of products, wherein the business objective is at least one of profit maximization, and sales volume goal;

an optimizer ~~configured to optimize~~ optimizing prices for products in the subset of products, using the created demand model, while maintaining the initial prices of products of the plurality of products that are not in the subset of products, wherein the optimization includes relaxation of constraints; and

an interface ~~configured to report~~ reporting the optimized prices of the subset of products for price setting, wherein the price setting establishes the amount of money consumers pay for each product of the subset of product.

2.   (Previously Cancelled)

3.   (Previously Presented) The apparatus, as recited in claim 1, wherein the subset generator configured to select no more than N products selects products that have had a change in information state, and products of the plurality of products that have constraints enabling price movement.

4.   (Original) The apparatus, as recited in claim 3, further comprising computer readable code for providing initial prices by optimizing prices for all of the plurality of products.

5.   (Original) The apparatus, as recited in claim 4, further comprising computer readable code for providing new data subsequent to providing initial prices by optimizing prices.

6.   (Original) The apparatus, as recited in claim 5, wherein the computer readable code for providing new data comprises computer readable code for providing new price data and computer readable code for providing new bound data.

7.   (Previously Presented) The apparatus, as recited in claim 6, further comprising computer readable code for providing rule relaxation, wherein the computer readable code for providing rule relaxation comprises:
        computer readable code for allowing the prioritization of a plurality of rules; and
        computer readable code for relaxing at least one lower priority rule to allow a higher priority rule to become feasible.

8.   (Previously Cancelled)

9.   (Original) The apparatus, as recited in claim 1, further comprising computer readable code for providing initial prices by optimizing prices for all of the plurality of products.

10.   (Original) The apparatus, as recited in claim 1, further comprising computer readable code for providing new data subsequent to providing initial prices by optimizing prices.

11.   (Original) The apparatus, as recited in claim 10, wherein the computer readable code for providing new data comprises computer readable code for providing new price data and computer readable code for providing new bound data.

12.   (Original) The apparatus, as recited in claim 1, further comprising computer readable code for providing rule relaxation.

13.   (Original) The apparatus, as recited in claim 12, wherein the computer readable code for providing rule relaxation, comprises:

        computer readable code for allowing the prioritization of a plurality of rules; and

        computer readable code for relaxing at least one lower priority rule to allow a higher priority rule to become feasible.

14.   (Currently Amended) A computer-implemented method for computing a preferred set of prices for a subset of products of a plurality of products, comprising:

        storing, in a database, initial prices for a plurality of products;

        creating, using a processor, a demand model based on Bayesian modeling;

        designating, using the processor, a subset of products of the plurality of products, wherein the number of products in the subset of products is less than the number of products in the plurality of products, the designating a subset of products comprising:

            generating a set of candidate products of the plurality of products;

            designating a number N;

            determining which N products of the candidate products have the largest impact on a business objective optimization of prices by solving an integer problem, wherein the business objective is at least one of profit maximization, and sales volume goal; and

                selecting no more than N products of the plurality of products to form the subset of products using the determination of which N products have the largest impact on the business objective optimization;

        optimizing prices for products, using the processor, in the subset of products using the demand model, while maintaining the initial prices of products of the plurality of products that are

not in the subset of products using the demand model, wherein the optimization includes a relaxation of constraints; and

setting the price for the subset of products by replacing current prices for the subset of products with the optimized prices of the subset of products, wherein the price setting establishes the amount of money consumers pay for each product of the subset of product, and wherein the price setting includes transforming a pricing display.

15.   (Previously Cancelled)

16.   (Previously Presented) The method, as recited in claim 14, wherein the selecting no more than N products selects products that have had a change in information state, and products of the plurality of products that have constraints enabling price movement.

17.   (Original) The method, as recited in claim 14, further comprising providing initial prices by optimizing prices for all of the plurality of products.

18.   (Original) The method, as recited in claim 17, further comprising providing new data subsequent to providing initial prices by optimizing prices.

19.   (Original) The method, as recited in claim 18, wherein the new data comprises new price data and bound data.

20.   (Previously Presented) The method, as recited in claim 14, further comprising providing rule relaxation, wherein the rule relaxation comprises:

prioritizing a plurality of rules; and

relaxing at least one lower priority rule to allow a higher priority rule to become feasible.

21.   (Currently Amended)   A computer-implemented method for setting prices for a subset of products of a plurality of products, comprising:

receiving, using a computer, optimized prices for a product category;

pricing every item in the product category according to the received optimized prices;

providing, using the computer, new data;

receiving, using the computer, new prices for the subset of products of the product category, wherein the subset is smaller than the product category, wherein the received new prices are generated by storing initial prices for a plurality of products, designating a subset of products of the plurality of products, wherein the number of products in the subset of products is less than the number of products in the plurality of products, the subset being designated by solving an integer problem, and wherein the designation of the subset of products includes allowing a number N to be designated and selecting no more than N products of the plurality of products to form the subset of products, and wherein the selected no more than N products has the largest impact on a business objective optimization of prices of any subset of no more than N products of the plurality of products, wherein the business objective is at least one of profit maximization, and sales volume goal;

optimizing prices for products, using a processor, in the subset of products, while freezing the initial prices of products of the plurality of products in the product category that are not in the subset of products, wherein the optimization includes relaxation of constraints; and

setting prices for the subset of products according to the received new prices, wherein the price setting establishes the amount of money consumers pay for each product of the subset of product, and wherein the price setting includes transforming a pricing display.

22.   (Cancelled)

23.   (Cancelled)

24.   (Cancelled)

25.   (Previously Presented) The method, as recited in claim 14, wherein the integer problem is based on an objective function which includes a sum of a plurality of marginal product price values.

26.   (Currently Amended) The apparatus, as recited in claim 1, further comprising an imputed variable generator computer readable code for resolving errors of new data provided, utilizing a grid of time periods including records, said resolving of errors comprising:

~~computer readable code for~~ removing duplicate records of the new data;

~~computer readable code for~~ removing the records for discontinued products, wherein the plurality of products includes discontinued products;

~~computer readable code for~~ removing the records that include at least one of negative prices, negative sale volume, negative costs, and erroneous prices, wherein the erroneous prices includes a product price that is a specified configurable standard deviations from mean price of the product of the plurality of products;

~~computer readable code for~~ removing the new data from closed stores, wherein the closed stores are determined by a lack of product movement at the closed store for a set time period;

~~computer readable code for~~ removing missing records, of the records, in the grid of time periods' first and last row; and

~~computer readable code for~~ generating replacement records for missing records, of the records, in the grid of time periods.

27.   (Currently Amended) The method, as recited in claim 14, further comprising resolving errors of new data provided, utilizing a grid of time periods including records, comprising:

removing, using the processor, duplicate records of the new data;

removing, using the processor, the records for discontinued products, wherein the plurality of products includes discontinued products;

removing, using the processor, the records that include at least one of negative prices, negative sale volume, negative costs, and erroneous prices, wherein the erroneous prices includes a product price that is a specified configurable standard deviations from mean price of the product of the plurality of products;

removing, using the processor, the new data from closed stores, wherein the closed stores are determined by a lack of product movement at the closed store for a set time period;

removing, using the processor, missing records, of the records, in the grid of time periods' first and last row; and

generating, using the processor, replacement records for missing records, of the records, in the grid of time periods.

28.   (Cancelled)

29.   (New) The method, as recited in claim 14, further comprising generating a database populated with the optimized prices of the subset of products.